WO 2006/065235 PCT/US2004/041559

WHAT IS CLAIMED IS:

1. A pressure-sensitive damper, comprising:

a first cylinder at least partially defining a first fluid chamber containing a damping fluid;

a damping piston supported for reciprocal motion within said first cylinder;

a piston rod having a first end connected to said damping piston, and a second end extending through a sealed opening in a seal head fixed to a first end of said first cylinder;

a second cylinder at least partially defining a second fluid chamber in selective fluid communication with said first cylinder and containing a damping fluid;

a compression damping plate fixed in said second cylinder;

at least one passage in said compression damping plate through which said damping fluid, displaced by the entrance into said first cylinder of successive portions of said piston rod during a compression stroke, flows in a first direction from said first fluid chamber to said second fluid chamber;

a first pressure source in communication with said second fluid chamber;

a valve which generates a resistance force to said fluid flow through said at least one passage in said first direction, wherein said resistance force varies according to an amount of force communicated to said valve by said first pressure source, said valve comprising:

a blow-off piston having a first position in engagement with said at least one passage and a second position removed from said at least one passage and, an intensifier piston;

wherein said first pressure source acts on a first end of said intensifier piston, which generates an intensified pressure at the second end of said intensifier piston, and wherein said intensified pressure is communicated to said blow-off piston to create a force urging said blow-off piston toward said first position.

2. The damper of Claim 1, further comprising a bypass circuit adapted to permit a flow of said damping fluid in said first direction through said compression damping plate without passing through said at least one passage.

WO 2006/065235 PCT/US2004/041559

3. The damper of Claim 1, further comprising an externally-adjustable bypass circuit adapted to permit a flow of said damping fluid in said first direction through said compression damping plate without passing through said at least one passage.

- 4. The damper of Claim 1, further comprising a second pressure source acting on said intensifier piston, said second pressure source adapted to generate a force tending to counteract said amount of force communicated to said valve by said first pressure source.
- 5. The damper of Claim 4, wherein a pressure level of said second pressure source is adjustable.
- 6. The damper of Claim 1, wherein a pressure level of said first pressure source is adjustable.
- 7. The damper of Claim 1, wherein said first pressure source comprises a pressurized, compressible fluid chamber.
- 8. The damper of Claim 7, wherein said first pressure source additionally comprises an annular chamber with externally-adjustable volume.